
	Interim Closure and Reclamation Plan	Issue Date: March 31, 2016 Revision: 4	
	Environment	Document #: BAF-PH1-830-P16-0012	

Appendix B - Mine Closure and Reclamation Planning Guidelines, Regulations and Lease Requirements

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

	Interim Closure and Reclamation Plan	Issue Date: March 31, 2016 Revision: 4	
	Environment	Document #: BAF-PH1-830-P16-0012	

The following tables provide cross-referencing to where responses to key Mine Closure and Reclamation Planning guidelines, regulations or lease requirements can be found in this document. The referenced section of this ICRP provides an outline, at a conceptual level, of how the proponent plans to address the particular requirement.

TABLE B-1: TERRITORIAL LANDS ACT


Territorial Land Use Regulations (TLUR 2010)		
Key Mine Closure and Reclamation Plan Guidelines	TLUR Section	ICRP (Section)
All closure work shall be carried out in accordance with permit requirements as stated in the <i>Territorial Land Use Regulations</i> .	s. 8 through 10, 31	2.1.5
"Subject to the terms and conditions of his permit or the express written authority of an inspector, every permittee shall replace all materials removed by him in the course of excavating, other than rock trenching, and shall level and compact the area of excavation."	s. 12	TABLE 6-1
"Restore the channel and bed of the stream to their original alignment and cross-section."	s. 13.(1 b)	TABLE 6-1
"Subject to the terms and conditions of his permit, every permittee shall, after completion of a land use operation, restore the permit area as nearly as possible to the same condition as it was prior to commencement of the land use operation."	s. 18	TABLE 6-1
Remove all buildings equipment, machinery, and storage equipment/containers and materials onsite.	s. 19.(1)	9.3 & 9.5
A final plan will be issued to the "engineer" within 60 days following completion of the land use operation or expiration of the permit.	s. 33	2.1.2.1
All plan drawings shall be: Drawn to scale that clearly illustrates all mine features. Shows the scale on the drawing. and Provide geographic co-ordinates.	s.35	Appendix A
"In order to ensure that a permittee complies with the terms and conditions of his permit with these Regulations, the engineer may include in the permit a condition that the permittee deposit with the Minister a security deposit not exceeding \$100,000."	s. 36	14

TABLE B-2: NUNAVUT IMPACT REVIEW BOARD

Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (2009)	
Key Mine Closure and Reclamation Plan Guidelines	ICRP (Section)
"To ensure that issues associated with the effective closure and reclamation of all Project Components is considered at the earliest possible stage in the mine development process, thereby influencing mine design to take into account environmental issues related to mine closure and reclamation."	All
"To establish major targets for reclamation of lands potentially affected by the Project."	TABLE 6-1
"Description of reclamation methods, time frames and schedules, including proposed notice periods to employees and public."	9
"Description of temporary closure measures and a discussion of at what point a temporary	7 & 8

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

	Interim Closure and Reclamation Plan	Issue Date: March 31, 2016 Revision: 4	
	Environment	Document #: BAF-PH1-830-P16-0012	


Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (2009)	
Key Mine Closure and Reclamation Plan Guidelines	ICRP (Section)
closure should be considered permanent for the purposes of requiring implementation."	
"Discussion of research programs to address challenges to reclamation, given the local conditions."	5.2
"Considerations for the Projection of public health and safety."	7.1, 8.1, & 9.1
"Description of closure and post - closure monitoring of environmental components."	13
"Discussion of the need for long - term monitoring and maintenance by establishing physical and chemical stability."	13
"Discussion on reduction or elimination of environmental effects once the mine ceases operation."	TABLE 6-1 & 9
"Discussion regarding re-establish conditions that permit the land to return to similar pre-mining land use."	TABLE 6-1 & 12
"Consideration for ARD/ML potential of rocks, in association with related waste rock management strategies."	9.11
"Any considerations for the restoration of the natural aesthetics of the Project."	TABLE 6-1

TABLE B-3: AANDC (INAC) GUIDELINES

Mine Site Reclamation Guidelines for the Northwest Territories (2007)	
Key Mine Closure and Reclamation Plan Guidelines	ICRP Report Section
Develop and implement preventive and control strategies to effectively minimize the potential for ARD and ML to occur.	9.11
Where ARD and ML are occurring as a result of mine activities, mitigate and minimize impacts to the environment.	9.11
Re-establish the pre-mining ground cover, which may involve encouraging self-sustainable indigenous vegetation growth.	5.2.2 & 9.14
Remediate any sources of contamination that may have been created during the development and operation of the mine site in order to protect humans, wildlife, and environmental health.	TABLE 6-1
Ensure physical stability of residual earth structures for environmental, human, and wildlife safety.	TABLE 6-1
Open Pit: Minimize access to protect human and wildlife safety. Implement water management strategies to minimize and control migration and discharge of contaminated drainage, and if required, collect and treat contaminated water. and Stabilize slopes to minimize erosion and slumping.	9.2
Waste Rock: Minimize erosion, thaw settlement, slope failure, collapse or the release of contaminants or sediments.	9.11
Buildings and infrastructure, equipment: Return area to its original state or to a condition compatible with the end land-use targets.	9.3 & 9.5

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

	Interim Closure and Reclamation Plan	Issue Date: March 31, 2016 Revision: 4	
	Environment	Document #: BAF-PH1-830-P16-0012	


Mine Site Reclamation Guidelines for the Northwest Territories (2007)	
Key Mine Closure and Reclamation Plan Guidelines	ICRP Report Section
Restore natural drainage patterns where surface infrastructure has been removed.	TABLE 6-1
Landfills: • Control erosion and effects to the ground thermal regime.	9.9
Water Management Systems: Dismantle and remove/dispose of as much of the system as possible and restore natural or established new drainage patterns. Stabilize and protect from erosion and failure for the long term.	TABLE 6-1 & 9.5

TABLE B-4: AANDC (INAC) POLICIES

Mine Site Reclamation Policy for Nunavut (2002) and Mine Site Reclamation Policy for the Northwest Territories (2002)	
Key Mine Closure and Reclamation Plan Guidelines	ICRP Report Section
Areas should be returned to viable and self sustaining areas where practical.	TABLE 6-1
Use best management principles such as progressive reclamation and reduce the environmental risk.	5
Communication and consultation shall be undertaken with all applicable parties.	2.1.2.1 & 2.3
Closure impacts for all mine components.	TABLE 6-1 & 9
Closure costs estimates should be undertaken by a third party using a recognized methodology such as RECLAIM. Closure cost estimates should include contingency factors.	14
Inclusion of a progressive reclamation plan.	5
Removal/stabilization of all structures.	9.3
Reclaim and stabilize waste rock stockpiles remaining on site.	9.11
Reclaim the disturbed surface areas to acceptable standards.	TABLE 6-1
Water quality at closure shall meet or exceed the accepted standards.	TABLE 6-1
Temporary Closure measures shall be included in the Preliminary Closure Plan and cost estimate.	7, 8 & 14
Inclusion of a post - closure monitoring program.	13

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

	Interim Closure and Reclamation Plan	Issue Date: March 31, 2016 Revision: 4	
	Environment	Document #: BAF-PH1-830-P16-0012	

Mine Site Reclamation Policy for Nunavut (2002) and Mine Site Reclamation Policy for the Northwest Territories (2002)	
Key Mine Closure and Reclamation Plan Guidelines	ICRP Report Section
Detailed closure and decommissioning of the following: Buildings and other structures. Roads. Airstrips. Waste rock stockpiles. Ore stockpiles Quarries. Open pit. Petroleum and chemical storage areas and facilities. Pipelines. Power corridors. Sewage and waste disposal areas and Mine drainage.	9
Re-vegetation of the site where practical.	9.14
Meet or exceed applicable water standards.	TABLE 6-1
Recycle materials where practical.	9
Closure cost estimate to be calculated for the total financial security for final closure.	14
Utilization of a recognized methodology for calculating the closure costs (i.e. RECLAIM model).	14
Establish financial security to be provided to the Minister of Aboriginal Affairs and Northern Development Canada (previously Indian Affairs and Northern Development).	14

TABLE B-5: AANDC (INAC) GUIDELINE

Mine Reclamation in the Northwest Territories and Yukon (1992)	
Key Mine Closure and Reclamation Plan Guidelines	ICRP Report Section
Preliminary Closure Plan objectives are to: Protect the public health and safety. Prevent and/or reduce the environmental deterioration. and Return all disturbed areas to the original state or an accepted level of reclamation.	9
Ensure post-closure physical and chemical stability.	TABLE 6-1 and 13
Development of a monitoring program to assess the effectiveness of the restoration to be undertaken between the Proponent and Indian and Northern Affairs Canada.	13
Reclaimed areas should be returned to previous land use and aesthetics, to the extent possible.	TABLE 6-1
Include temporary closure and indefinite (long term) Preliminary Closure Plans.	7 & 8
Mine features should be closed in accordance with the guidelines provided in Tables 5.2 through Table 5.8 (Robertson and Kirsten 1992).	9
Inclusion of a fully developed closure cost estimate.	14
Re-vegetation where practical. Local arctic species and distributions should be considered.	9.14

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used


	Interim Closure and Reclamation Plan	Issue Date: March 31, 2016 Revision: 4	
	Environment	Document #: BAF-PH1-830-P16-0012	

TABLE B-6: NORTHWEST TERRITORIES WATER BOARD GUIDELINES

Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (1990)	
Key Mine Closure and Reclamation Plan Guidelines	ICRP Plan Report Section
Evaluation of ARD/ML potential for open pit, waste rock stockpiles and disturbed areas.	9.2 & 9.11(on-going process)
Cover design for waste rock stockpiles, if required. Stockpiles should be designed and contoured to ensure stability.	9.11
Re-vegetation of disturbed areas, where practical.	9.14
Open pit closure preferably backfilling or flooding.	9.2
Stability of open pit should be investigated.	9.2
Quarries should be backfilled and contoured to match the surrounding topography.	9.12
Removal of fuel and chemical storage tanks and associated piping and plumbing if applicable.	9.5, 9.8, & 9.9
Fuel contaminated soils should be remediated.	9.10
Chemical storage facilities should be removed from site.	9.8
Soils surrounding chemical facilities should be tested for contamination and where present be removed from site.	9.10
Culverts should be removed from site.	9.13
Airstrips should be left intact, unless deemed unsafe.	9.7
Natural drainage should be restored to the site. Roads that do not impede the natural drainage may remain intact.	9.6 & 9.13
Solid wastes should be dealt with in responsible manner.	9.9
Hazardous wastes are to be disposed at an approved facility.	9.8 and 9.9
Buildings and structures should be removed from the site.	9.3
Concrete foundations may be left in a safe condition.	9.4
The Preliminary Closure Plan should include a planned shutdown/temporary closure scenario.	7
The Preliminary Closure Plan should include a long term shutdown/Long-term Closure scenario.	8
The Preliminary Closure Plan should include a final abandonment/final closure scenario.	9
It is encouraged that site closure include phased plan development (progressive closure).	5
A monitoring program should be devised to measure the effectiveness of the site closure.	13
Financial security is required for the closure phase.	14

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used